Listing and Amendments to the Claims

This listing of claims will replace the claims that were published in the PCT Application and annexed to the International Preliminary Report on Patentability:

- 1. (currently amended) Device for generating a look-up table for a given value (VAL) of a parameter (APL) among N different values, whose output values can be approximated by a piecewise linear function of a variable (S(VAL)) depending on the given value, the set of N values being divided into P subsets of consecutive values, each piece of the piecewise linear function being in a different subset, wherein characterized in that it comprises:
- a first memory (101) for storing, for each subset i, a primary lookup table (PMTCi) associated to a bound value of the subset i,
- a second memory (102) for storing, for each subset i, a delta look-up table corresponding to the difference between a secondary look-up table (SMTCi) and the primary look-up table (PMTCi) related to the subset i, the secondary look-up table (SMTCi) being associated to the other bound value of the subset i,
- a third memory (103) for storing, for each of said N values, an index indicating which primary look-up table in the first memory (104) and which delta look-up table in the second memory (102) have to be used for extrapolation,
- a fourth memory (104)-for storing an extrapolation coefficient (C) for each one of said N values, the extrapolation coefficient (C(VAL)) associated to a given value being defined in accordance with the value (S(VAL)) of a variable S for said given value (VAL) and the values (S(PMTCi),S(SMTCi)) of the variable S for the two bound values of the subset i comprising said given value; and
- a computing block (105) for generating a look-up table, for the given value (VAL)-in accordance with the related extrapolation coefficient (C(VAL)), primary look-up table (PMTCi) and delta look-up table.

2. (currently amended) Device according to claim 1, wherein characterized in that the parameter is an average power level and the variable (S(VAL)) is a number of sustain pulses corresponding to the given value (VAL) of the parameter

and that it generates a Metacode look-up table is generated for each average power level value.

- 3. (currently amended) Device according to claim 2, wherein characterized in that the bound level related to the primary look-up table (PMTCi) of a subset of average power level values is the highest average power level value of the subset and the bound level related to the secondary look-up table (SMTCi) of a subset of average power level values is the lowest average power level value of the subset.
- 4. (currently amended) Device Method according to one of the claims 1 –to–3, wherein characterized in that the ratio between the value (S(PMTCi)) of the variable for one bound value in the subset i and the value (S(PMTCi+1)) of the variable for the same bound value in the subset i+1 equals to a fixed parameter α .
- 5. (currently amended) Device according to the claim 4, wherein characterized in that the parameter α is defined as followed : $\alpha = \sqrt[N]{\frac{S_{MAX}}{S_{MIN}}}$

where S_{MAX} is the value of the variable (S) for a peak white image and S_{MIN} for a full white image.

6. (currently amended) Device according to one of the claims 1 to 5, wherein characterized in that the extrapolation coefficient (C(VAL)) equals to:

$$C(VAL) = \frac{S(VAL) - S(PMTC_i)}{S(SMTC_i) - S(PMTC_i)}$$

where - S(PMTC_i) is the value of the variable for the highest bound value of the subset i;

- $S(\mathsf{SMTC}_i)$ is the value of the variable for the lowest bound value of the subset i; and
 - S(VAL) is the value of the variable for the given value.
- 7. (currently amended) Device according to ene of the claims 1 to 6, wherein characterized in that the computed look-up table equals to the sum of the output of the primary look-up table (PMTCi) for the given value (VAL) and the output of the delta look-up table (PMTCi) for the given value (VAL) weighted by the extrapolation coefficient for the given value (VAL).